

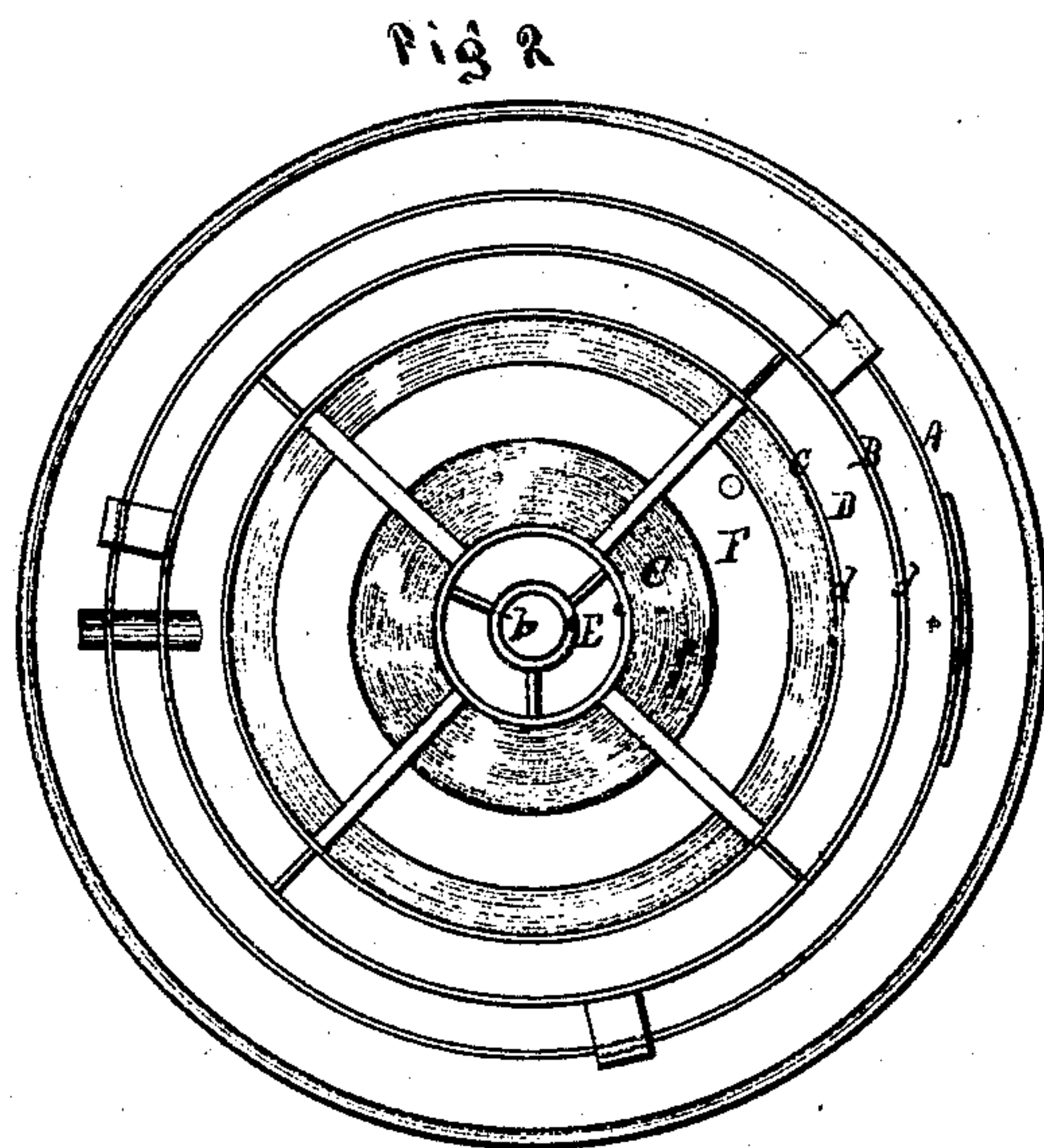
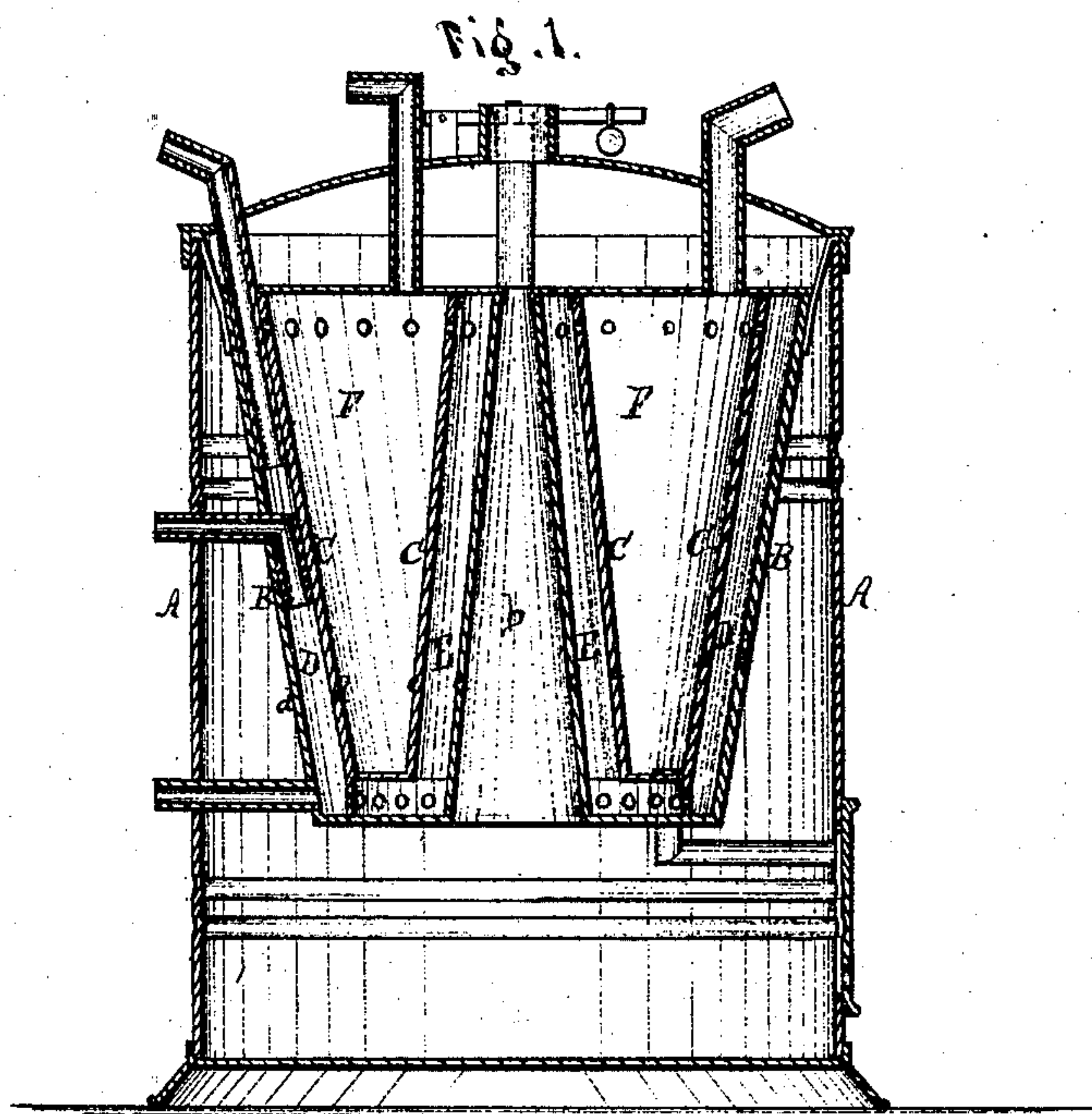
*E. I. Lacy,*

*2. Sheets, Sheet 1.*

*Steam Generator.*

*No. 113,533.*

*Patented Apr. 11. 1871.*



Witnesses:

*G. J. Hoyer.*  
*J. H. Pearson*

Inventor:

*Erasmus D. Lacy, by*  
*H. W. Beadle, atty*

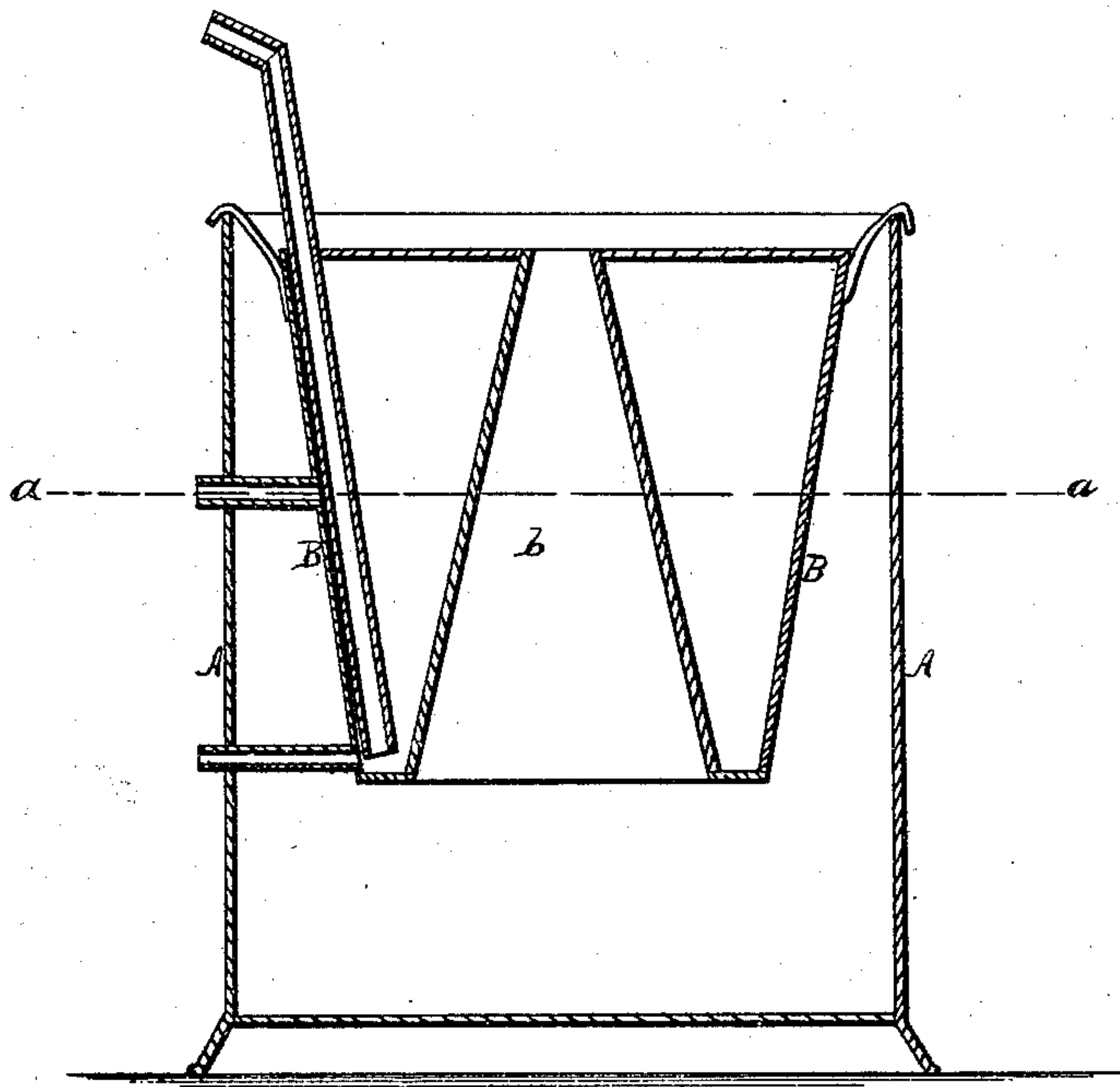
*E. J. Lacy,*

*2. Sheets, Sheet 2.*

*Steam Generator.*

*No. 113,533.*

*Patented Apr. 11, 1871.*



*Witnesses:*

*I. J. Noyes.*  
*A. H. Pearson*

*Inventor:*

*Edmund J. Lacy, by*  
*H. W. Beadle, atty*



# UNITED STATES PATENT OFFICE.

ERASMUS D. LACY, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HIMSELF AND  
BARNAS C. SEARS, OF SAME PLACE.

## IMPROVEMENT IN STEAM-GENERATORS.

Specification forming part of Letters Patent No. **113,533**, dated April 11, 1871.

*To all whom it may concern:*

Be it known that I, ERASMUS D. LACY, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Steam-Generators; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention has for its object the production of a steam-generator especially designed for cooking food for stock, which shall have a larger surface exposed to the action of the fire and yet be compact in form.

In the drawing, Sheet 1, Figure 1 is a side elevation, in section, of my invention. Fig. 2 is a plan view with the top removed. Sheet 2, Fig. 1 is a side elevation, in section, with the auxiliary chamber C omitted.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents a cylinder, constructed of any suitable material, which forms the outer case of the furnace. B represents a chamber, which is hung within the cylinder A above the fire-box by means of any suitable hangings, care being taken to have an open space entirely about it. Its form is peculiar: its outer surface represents the frustum of a cone inverted, while within it is provided with a centrally-arranged diaphragm, *b*, of similar form, but in reversed position. The diaphragm *b* opens below into the fire-box and above into the smoke-stack.

The result of this construction is, that the heat from the fire-chamber is permitted to pass up through the center of the chamber B, and also upon its outside, so that a very large portion of its surface is exposed to its action.

Within the chamber B is inserted an auxiliary chamber, C, of similar form, which is provided, however, on its exterior and interior surfaces with flanges, for the purpose of holding it in proper place.

By means of this construction and arrangement water-chambers D and E between the walls *d d* and *e e* are formed, the chambers being united by means of a flange having suitable orifices, which supports the entire chamber C.

F represents the steam-chamber, which is connected by suitable openings with the chambers D and E in each side. It is provided with a pipe to conduct away the water collecting from the condensed steam.

The water-chamber is provided with a suitable supply-pipe and with a water-gage. The supply-pipe should extend down through the water-chamber to a point just above its bottom. By means of this arrangement the cold water, as it passes into the boiler, becomes more or less heated before it is actually delivered from the pipe. A safety-valve and blow-off pipe should also be provided.

If desired, the auxiliary chamber C may be omitted, in which case the steam will collect in the boiler above the water-line *a a*, as is usual in other boilers.

By means of this construction a compact and simple steam-generator is produced, which has a very large heating-surface, by means of which steam can be very economically made.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The chamber B, in combination with the furnace A, when constructed and arranged substantially as described.

2. The chambers B and C, when constructed and arranged substantially as described.

3. The generator described, consisting of the furnace A, boiler, with chambers B and C, and supply and steam pipes, arranged as described.

This specification signed and witnessed this 10th day of January, 1871.

ERASMUS D. LACY.

Witnesses:

G. W. FORD,  
CHARLIE S. FORD.